Maryland
Department of the Environment

Overview of Mountain Christian Church Drainfield System

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History of Septic System Evaluation and State Groundwater Discharge Permit

1. Soil evaluations in 1998 and 2002 were conducted by the Harford County Environmental Health Department to find suitable area for replacing existing failed system and construction of a new assembly hall.

2. A groundwater discharge permit was required for this system due to past history of failure of the onsite system and new effluent quality monitoring.

3. MDE typically requires our discharge permit only for systems of 5,000 gpd or higher.

4. MDE issued the groundwater permit effective 5/1/2003 for the discharge of 2400 gal/day monthly average wastewater flow. This permit was subsequently renewed in 2009 and 2015.

Soil Tests in April 1998 and March 2002

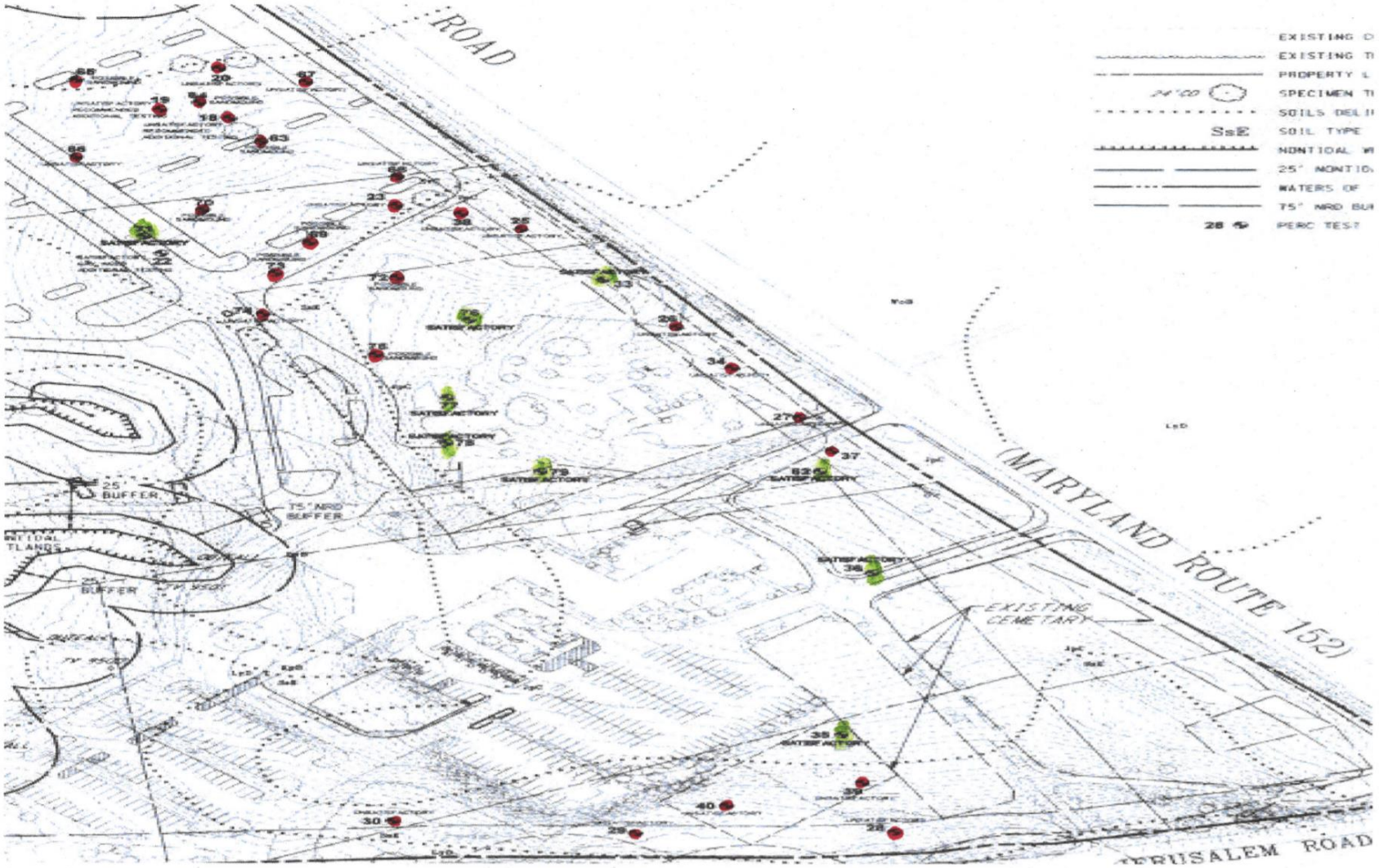
1. Harford County Environmental Heath Department evaluated soil test pits along Route 152 and Jerusalem Road in 1998 and again in 2002.

2. At that time, 18 test pits were thought to involve “satisfactory” soil and groundwater characteristics for drainfield system installation, 54 test pits were considered in the “unsatisfactory” category.

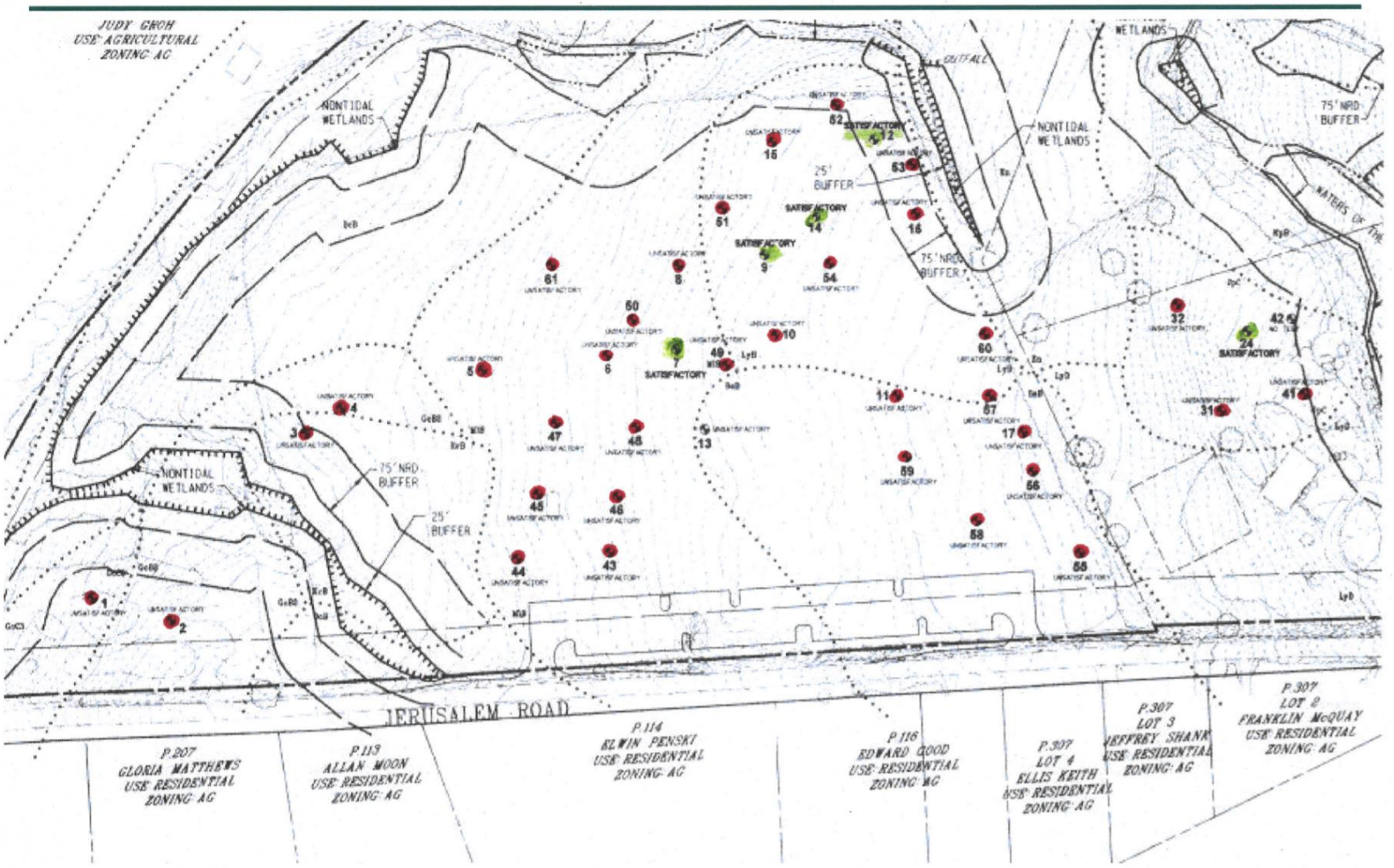
3. A sand mound system repair is not considered possible at this site since it requires a much larger surface area and uses a much lower loading rate than the 1.2 gal/day/sq ft loading rate used for the existing trench system design.

4. One area with four “satisfactory” test pits (No. 76, 77, 78 and 79) close together was selected as the current drainfield site.

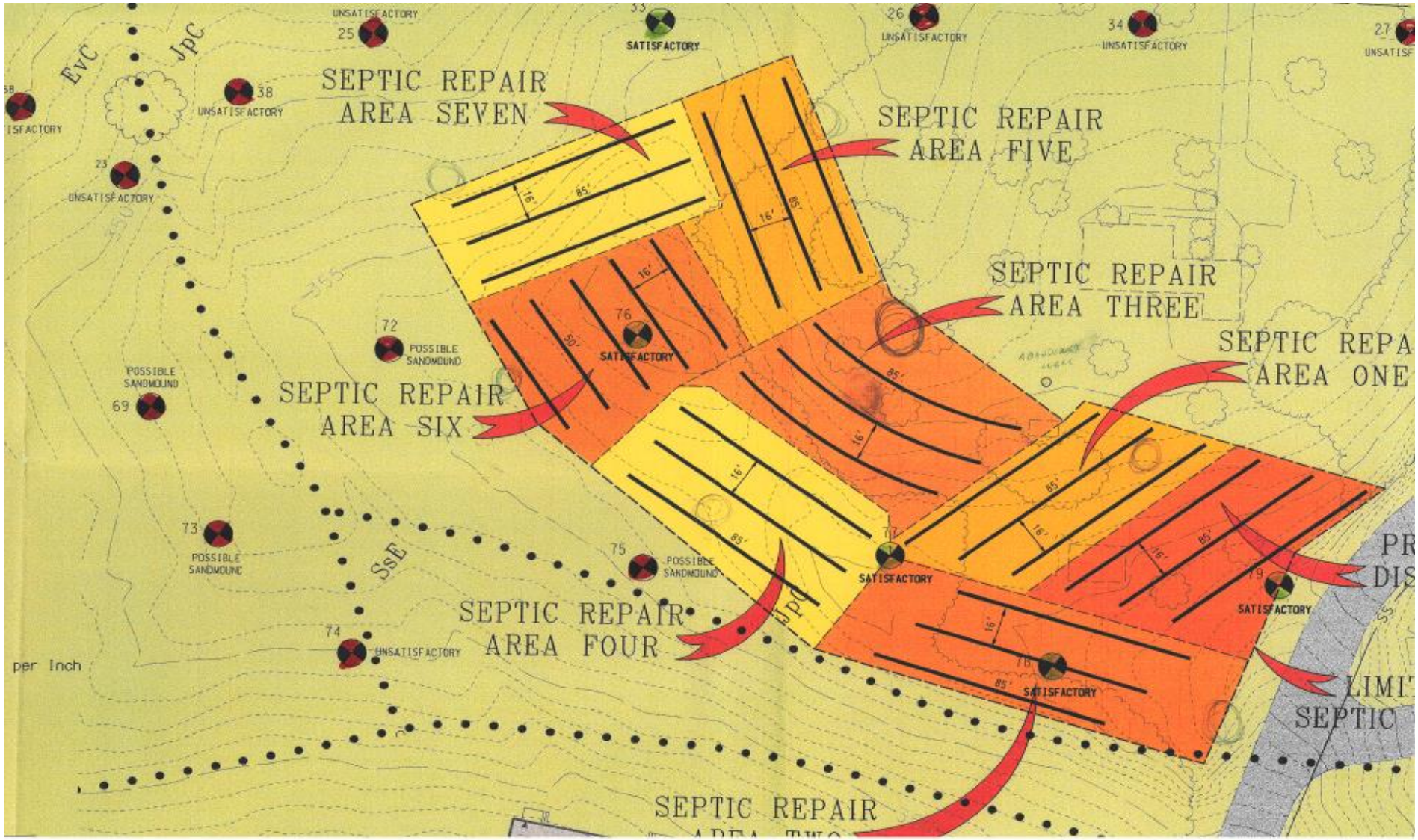
Locations of Soil Test Pits Evaluated in 1998 and 2002



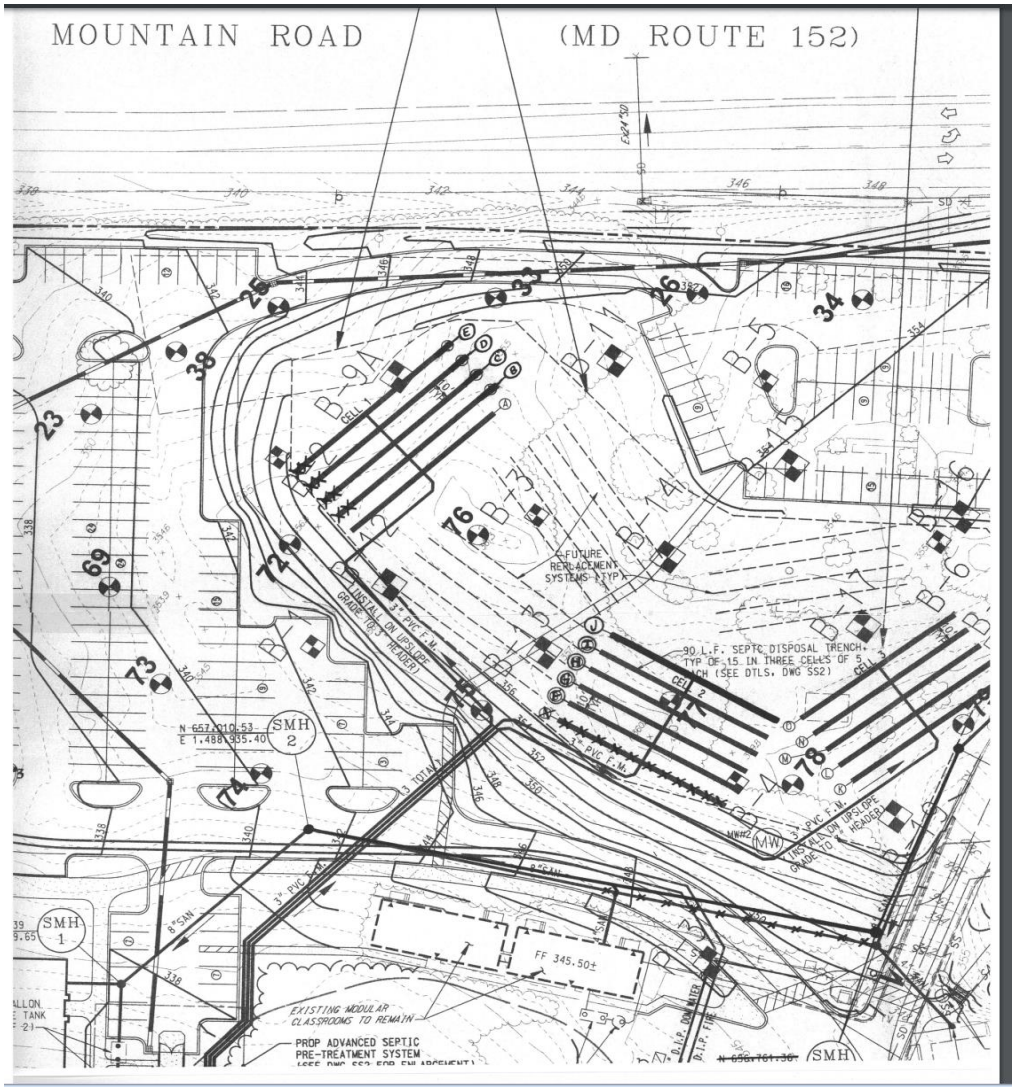
Locations of Soil Test Pits Evaluated in 1998 and 2002 (continued)



Locations of Existing Drainfield Site and Soil Test Pits



As Built Drainfield Drawing



Initial Findings

1. Although the drainfield is located in an area labeled as satisfactory soil testing in 2002, it is surrounded by unsatisfactory soil with clayey soil at shallow depth.

2. The “satisfactory” soil in the existing drainfield is likely impacted by a clay bottom as shallow as 13 ft (TP 76).

3. The soil in the existing drainfield and the nearby unsatisfactory soil form a clay bowl with the potential to accumulate effluent and cause overflow or seepage.

4. To date, two septic systems installed in the past at the Mountain Christian Church have failed (2003 and now) due to impermeable soil.

Initial Findings (continued)

5. Options for a failing system include repair of onsite system, sanitary sewer connection, surface discharge permit.

6. Forcing the permittee to reduce an authorized permit flow volume is not considered a legal remedy.

7. Pump and haul is considered only a temporary solution until a new discharge or connection can be implemented.

8. The long history of the problems with the soils at this site led the Department to consider surface water discharge as an option.

Conclusion

Based on the comments received and the level of interest in this proposed surface discharge, the Department will reassess the hydrogeological constraints of the onsite system before rendering a final permit decision.